



## **NOTICE TO CONTRACTORS**

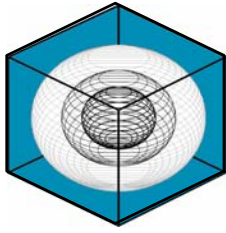
September 21, 2005

### **Ruling from Energy Systems Laboratory**

This **NOTICE TO CONTRACTORS** contains important information for builders and contractors that do business in the City of Arlington. Please circulate this to others in your organization and to your sub-contractors as may be applicable.

The Energy Systems Laboratory (ESL) of the Texas A&M University System has published a ruling regarding the IRC/IECC Code requirements for insulated duct work in the State of Texas. Senate Bill 5, enacted in 2001, assigned ESL an important role in the implementation of state energy standards and assistance with calculation of emissions reduction benefits from energy efficiency and renewable energy initiative. You can find additional information

The City of Arlington Building Inspections Division is studying the issue and has not yet made any determination regarding any local implementation. Attached is a copy of ESL's ruling. Additional communication will be forthcoming.



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Date: September 9, 2005

To: Persons Interested in IRC/IECC Code Requirements for Insulated Ducts in Texas

**Subject:** Requirements for R6/SEER14 Trade-Off for Residential Duct Insulation in Unconditioned Spaces

**Effective January 23, 2006, the R6/SEER12 Trade-Off will no longer be acceptable as an alternative approach to compliance with energy code duct insulation requirements in Texas.**

On August 28, 2002, the Energy Systems Laboratory published an open letter establishing an alternative compliance approach to satisfy the duct insulation requirements of the IRC/IECC within Texas. The alternative described in that letter was an **R6/SEER12 Trade-Off**. **This trade-off expires at midnight, January 22, 2006.** This action is taken to be consistent with the National Appliance Energy Conservation Act (NAECA) of 1987, and standards published under that law by the U.S. Department of Energy (Federal Register, Vol. 69, No. 158, August 17, 2004), effective January 23, 2006.

**Effective January 23, 2006, an R6/SEER 14 Trade-Off will be allowed as an alternative compliance approach with energy code duct insulation requirements for Texas with the following restrictions.**

**For Gas or Electric Heating Systems:**

- 1) For heating-degree-days (HDDs) less than 3,000 HDDs, the R6/SEER14 Trade-Off **may** be used as stated below for residences that use gas or electric heat.
- 2) For heating-degree-days (HDDs) greater than or equal to 3,000 HDDs, the R6/SEER14 Trade-Off **may** be used as stated below if the heating system, other than electric resistance heating, has an AFUE rating greater than or equal to 80%. The R6/SEER14 Trade-Off **may not** be used if the heating system uses electric resistance heating.

**For Heat Pump Heating Systems:**

- 1) For heating-degree-days (HDDs) less than 3,500 HDDs, the R6/SEER14 Trade-Off **may** be used as stated below for residences that use heat pumps to provide heating.
- 2) For heating-degree-days (HDDs) greater than or equal to 3,500 HDDs, the R6/SEER14 Trade-Off **may** be used as stated below if the heat pump has an HSPF rating greater than or equal to 7.0.

**Effective January 23, 2006, two (2) options exist for insulating ducts in unconditioned spaces in Texas:**

- 1) The building can be built to the exact insulation requirements specified in the applicable IRC / IECC codes  
**OR**
- 2) The building can be constructed with reduced duct insulation and an air-conditioner with increased efficiency in the **R6/SEER14 Trade-Off** method. The SEER rating for each unit will be determined by the ARI rating for the specific equipment model numbers installed (including

evaporator, condenser, and other system parts required). This trade-off **does not** cover supply and return air ducts located outside the building structure.

**Allowable Trade-Off To Use With R-6 for Supply and Return Ducts Summary:**

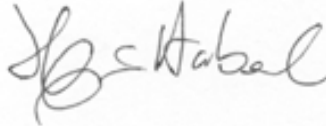
The **R6/SEER14 Trade-Off** allows R-6 duct insulation for supply and return ducts located in unconditioned spaces when an air-conditioner with a minimum SEER-14 rating is installed, subject to the HDD limits previously stated. The energy saved by increasing both the SEER rating from 13 to 14 and the return duct insulation requirements from R-4 to R-6 will offset the total annual energy lost by lowering the supply duct insulation requirements from R-8 to R-6. The Energy Systems Laboratory has calculated the energy impact and found that this **R6/SEER14 Trade-Off** meets the energy efficiency requirements of Senate Bill 5 of the State of Texas. This trade-off may be used for all one and two-family dwellings and multi-family dwellings three stories or less in height above grade. The SEER-14 air-conditioner may not be used to offset other lower energy efficiency substitutions when the **R6/SEER14 Trade-Off** is used.

Please check the Energy Systems Laboratory's web page for further information and updates at <http://energysystemslab.tamu.edu>.

Sincerely,



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